WE CLAIM:

1. A method for recording data from a wireless communication transmission comprising:

disabling at least a portion of non-essential electronics when a receiver is tuned in a receive mode;

starting a capture sequence for the receiver in the receive mode;

receiving the wireless communication transmission and producing a base-band signal with the receiver;

digitizing the complex base-band signal from a captured transmission; and

storing the digitized complex base-band signal in a buffer without further processing such that the effects of noise in the digitized complex base-band signal are minimized by disabling the at least a portion of the non-essential electronics while the digitized complex base-band signal is received.

2. A method as in Claim 1, further comprising: adjusting the tuning frequency of the receiver when the non-essential electronics are enabled, and maintaining the tuning frequency of the receiver when the non-essential electronics are disabled.

3. A method as in Claim 1, further comprising: processing the stored digitized complex base-band signal to recover a wireless communication transmission when the receiver is disabled in a processing mode.

4. A method for recording data from a wireless communication transmission comprising:

issuing a shut-down alert;

tuning the receiver to a desired frequency;

disabling at least a portion of non-essential electronics after the shut-down alert and the receiver tuning has settled;

starting a capture sequence for the receiver;

receiving the wireless communication transmission with the receiver and producing a base-band signal;

digitizing the complex base-band signal from a captured transmission;

storing the digitized complex base-band signal in a buffer without further processing;

stopping the capture sequence for the receiver at the expiration of a predetermined time interval; and

enabling the at least a portion of the non-essential electronics after the expiration of the predetermined time interval.

5. A method as in Claim 4, further comprising: waking the receiver from a sleep mode prior to a scheduled event, and setting the receiver in the sleep mode after the scheduled event has expired.

6. A method as in Claim 4, further comprising: storing a scheduled event, wherein the scheduled event includes a specified tuning frequency and a specified time.

7. A method as in Claim 4, further comprising: waking the receiver from a sleep mode a time interval before the specified time, and tuning the receiver to the specified tuning frequency.

8. A method as in Claim 7, further comprising: starting the capture sequence a small time interval before the specified time corresponding to a pre-capture sequence, and stopping the capture sequence a small time interval after the expiration of the predetermined time interval corresponding to a post-capture sequence such that the digital data stored in the buffer corresponds to the digitized complex base-band signal from the pre-capture sequence, the capture sequence, and the post capture sequence.

9. A method as in Claim 4, further comprising issuing a processing alert to indicate that a transmission capture sequence has been completed.

10. A method as in Claim 4, receiving the wireless communication transmission further comprising down-converting the wireless communication transmission to a non-harmonically related IF frequency such that the IF frequency is unrelated to the transmission frequency and related non-ideal are minimized.

11. A method as in Claim 4, further comprising processing the captured sequence after a plurality of transmitted segments are received, wherein the plurality of transmitted segments are at least part of a single transmission that are transmitted separately over time, and processing substantially reconstructs the single transmission from the plurality of transmitted segments.

12. An apparatus for wireless communication, comprising:

an antenna that produces an RF signal in response to a FM signal that is in a particular frequency band;

an RF amplifier is coupled to the antenna and produces an amplified RF signal in response to the RF signal;

Front end an IF signal processor is coupled to the RF amplifier and produces an IF signal in response to the amplified RF signal; → Skip DE & F35

I + Q a base-band signal processor is coupled to the IF signal processor and produces a base-band signal in response to the IF signal;

a post detector processor is coupled to the base-band signal processor and produces two digital signals in response to the base-band signal, the two digital signals corresponding to a digitized I and Q base-band signal; and A/D

a buffer is coupled to the post detector processor and stores the digitized I and Q base-band signals when active, wherein the digitized I and Q base-band signals are stored in the buffer for post processing such that signal processing may be performed on the stored digitized I and Q base-band signals at a subsequent time after an entire transmission has been received. Buffer

13. An apparatus as in Claim 12, wherein the IF signal processor includes an image rejection mixer.

14. An apparatus as in Claim 13, the image rejection mixer further comprising: a first mixer that multiplies a sine signal with the amplified RF signal to produce a first signal, a second mixer that multiplies a cosine signal with the amplified RF signal to produce a second signal, a first phase shifter produces a first shifted signal that corresponds to the first signal shifted by –45 degrees, a second shifted signal that corresponds to the second signal shifted by +45 degrees, and a summer that produces an IF signal by adding the first and second shifted signals.

15. An apparatus as in Claim 12, the base-band signal processor further comprising a frequency band shifter and a phase locked loop demodulator, wherein the frequency band shifter is arranged to shift the IF signal to an unrelated second IF signal that has a frequency that is non-harmonically related to other components in the apparatus, and the phase locked loop demodulator produces the base-band signal in response to the second IF signal.

16. An apparatus as in Claim 15, the frequency band shifter further comprising a mixer that produces a shifted signal by multiplying the IF signal by a non-harmonically related oscillation signal, and a low pass filter that is arranged to produce the second IF signal in response to the shifted signal.

17. An apparatus as in Claim 12, the post detector processor including a first mixer that multiplies a cosine signal with the base-band signal to produce a first signal, a second mixer that multiplies a sine signal with the base-band signal to produce a second signal, a first low pass filter that produces a third signal in response to the first signal, a second low pass filter that produces a fourth signal in response to the second signal, a first analog-to-digital converter that converts the second signal to a first of the two digitized signals, and a second analog-to-digital converter that converts the fourth signal a second of the two digitized signals.

18. An apparatus a in Claim 12, further comprising a time-base circuit that includes a phase detector, a crystal oscillator that has an output that is coupled to a first input of the phase detector, a voltage controlled oscillator that has an output that is

coupled to a second input of the phase detector and an input that is coupled to an output of the phase detector through a controlled switch, and a storage circuit that is coupled to the input of the voltage controlled oscillator, wherein the storage circuit is arranged to store a control voltage corresponding to the output of the phase detector when the controlled switch is closed, and the storage circuit is arranged to hold the control voltage when the controlled switch is open such that the voltage controlled oscillator continues to oscillate at a desired frequency.

19. An apparatus a in Claim 18, wherein the time base-circuit has non-essential electronic components that are disabled while the apparatus is storing digitized I and Q base-band signals in the buffer during a receiver mode, and the non-essential electronic components are enabled when the apparatus is processing the stored digitized I and Q base-band signals during a processing mode, wherein the controlled switch is open during the receiver mode, and non-ideal effects from the non-essential electronic components is reduced during the receiver mode.

20. An apparatus for wireless communication in a watch having a watch band, comprising:

an antenna that produces an RF signal in response to a FM signal that is in a particular frequency band, wherein the antenna is formed in the watch-band;

an RF amplifier is coupled to the antenna and produces an amplified RF signal in response to the RF signal;

an IF signal processor is coupled to the RF amplifier and produces an IF signal in response to the amplified RF signal;

a base-band signal processor is coupled to the IF signal processor and produces a base-band signal in response to the IF signal;

a post detector processor is coupled to the base-band signal processor and produces two digital signals in response to the base-band signal, the two digital signals corresponding to a digitized I and Q base-band signal; and

a buffer is coupled to the post detector processor and stores the digitized I and Q base-band signals when active, wherein the digitized I and Q base-band signals

are stored in the buffer for post processing such that signal processing may be performed on the stored digitized I and Q base-band signals at a subsequent time after an entire transmission has been received.

21. An apparatus as in Claim 20, wherein the buffer stores multiple segments that are associated with a single transmission, wherein each segment is part of the single transmission such that the single transmission is reassembled by a controller subsequent to receipt of all of the segments.

22. An apparatus as in Claim 20, wherein the buffer stores segments that are associated with a single transmission, wherein each segment is transmitted at a different time, and each segment is part of a distributed transmission that occurs over a defined time interval, wherein the controller processes the segments to recover data from the single transmission after the expiration of the defined time interval.